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JAPAN ANEMONES



NOVEMBER, 1885.

THE ADVANTAGES of a full supply of fruit for family purposes are so great that one is often surprised that many village residents, and many farmers who are so situated that they could easily provide an abundance of fruit for their families, fail to raise it entirely, or so scantily as to have it but a small portion of the year, and some years not at all.

As fruit of some kind can be raised in all parts of the country, we have, from time to time, given prominence to this subject and urged our readers to plant fruit of all kinds that will succeed with them, and have it in such quantity that it can be used freely, and, if possible, every day in the year. The Strawberry is cosmopolitan, and requires but little space; the Currant, the Raspberry and the Blackberry will flourish over a wide range of territory; by selecting varieties enough Apples, Pears, Plums, Cherries and Grapes for the family use can be raised in nearly every State. In the Southern States a still wider range of fruits is presented, and there is no reason why fruit should not appear in plenty and variety upon every table in our land. Now, while this is true, it is not true that all parts of the country are adapted to fruit-growing as a business, nor that fruit-growing under good conditions is immensely profitable. On the other hand, we are learning, year after year, that cer-

tain definite and limited areas of territory are most suitable to particular kinds of fruit, and that there only is their cultivation profitable. We can hardly blame the nurseryman or the tree dealer for eloquently setting forth the wonderful profits of fruit culture, as is sometimes done, but in their case the public is fore-armed as it is forewarned; we see through the thin veil of gratuitous advice, and discover the interested motive concealed. But we often see articles in agricultural and horticultural papers that present the business of fruit-growing in colors glowing with soft rosy tints, that effectually captivate many persons of imagination, but who are not endowed with the toughness and persistence, and other qualities requisite for successful fruit-growers. The history of fruit-growing in this country, if fairly written, would be a history of many failures as well as successes. No giant fortunes can be pointed to that have been made by raising fruit, but many intelligent and industrious cultivators have supported themselves and made small accumulations in this pursuit; many others have received substantial benefits from fruit-growing as a part of the farm work, and occasionally we hear of a thrifty villager who has helped himself by devoting some spare time to his fruit garden.

Fruit-growing, as an employment by itself, has, at least, as many difficulties as

JAPAN ANEMONES.

The plate of Japan Anemones, this month, will remind our readers of the beauty of these flowers at this season of the year when flowers, in our Northern regions in the open ground, are so scarce. The plant with the rose-colored flowers is considered the original species, and the one bearing white flowers is a variety. This variety, when first sent out, was called Honorine Jobert, and is so named frequently in catalogues, but this name does not appear to suit the public, for it is little used, and the terms, white-flowering Japan Anemone, and *A. Japonica alba* are usually employed.

These plants are herbaceous perennials, with numerous radical leaves, and sending up leafy flowering stems a foot to three feet in height; these flower stems branch several times, each branch having a leaf at its base, and terminated by a flower. They are wonderfully hardy plants, standing unprotected in the lowest temperature known in the Northern States, or from twenty to thirty degrees below zero, Fahrenheit. To produce the finest effects in the garden these plants should be set in masses, the two colors near each other, supported by a background of leafy shrubs.

As cut flowers for vases they are valuable, and they also serve an excellent purpose, when potted, in furnishing the greenhouse with flowers in the autumn months, when there are few other flowers to enliven it. The plants are easily increased by division of the roots.

Those of our readers having ample

grounds, and who have not yet given attention to the subject, do not comprehend how much floral beauty there is in store for them when they energetically undertake the planting and cultivation of a border of flowering shrubs out-flanked by masses of the best herbaceous perennials, and bulbous and tuberous-rooted flowering plants. This is the proper season to commence operations for such a plantation. A border from six to ten feet in width bounded by an irregularly curving line should be laid out and deeply spaded. At the back set shrubs at distances of four to six feet apart, according to their nature and growth; small shrubs should be planted several of the same kind together, and contrasting colors should be in proximity, and also those that bloom at the same season. A part of such a shrubbery can consist of hardy Roses. In front of the whole line set masses of herbaceous plants of a great variety of style of bloom, that will appear in succession from early spring until late fall. In this climate all such plants can be set at this season of the year, or the preparation for them can be made now and the planting be done in spring. In no other way can so great a variety of flowering plants be had with so little trouble. A part of such a border or places in it, here and there, can also be devoted to annual flowers. A handsome lawn with a few choice trees appropriately set and bordered in the manner described will always be beautiful and full of interest.



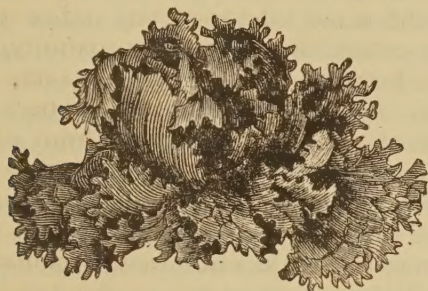
CORRESPONDENCE.

SALAD PLANTS—PRIZE ESSAY.

What Salad plants are most desirable, and by what manner of cultivation can a family be best supplied with them from a private garden?

Lettuce, Endive, Chicory, Celery and Corn Salad are, in my estimation, the most desirable plants of this class, and with a good supply of each kind on hand a family can have salad of some kind every day in the year.

Lettuce, to do its best, requires a very rich, mellow soil, with a liberal amount



CURLED LETTUCE.

of moisture, as its quality depends largely upon vigorous, unchecked growth. If you have no plants from fall sowing, begin about the time early Cabbage seed is sown by the aid of a hot-bed, using a rather moderate bottom heat. Keep the soil moist and give plenty of air on fine days, thinning the plants for use as they grow, and gradually hardening off those intended for transplanting by exposure to the air, and diminishing the supply of

water. If you wish to mature the plants under glass, transplant to a cold - frame when two



ENDIVE.

inches high, and keep the frame close, giving frequent watering, and shade on very sunny days.

For open air cultivation select a sunny, well-drained spot. The ground should be deeply spaded and enriched with thoroughly decomposed barn-yard manure and scrapings of decayed vegetable mat-

ter, such as leaves and cornstalks. Fresh hen manure finely pulverized and carefully worked in after spading, will give good account of itself.

Lay out in beds three and a half feet wide of the desired length, with narrow walks between the beds. Thus the center can be reached from both sides, doing away with the necessity of treading on the bed while watering, thinning or cultivating. Set out the plants raised in the hot-bed in rows from six to ten inches apart each way, according to variety. As a rule, plants should just about meet when full grown. When well established keep the ground stirred by frequent hoeing, and give copious watering whenever the ground becomes very dry.

Sow seed in beds prepared as above directed, as early as possible, and at intervals of two or three weeks for succession.

I never sow Lettuce seed in drills, but always sow broadcast, and give the plants plenty of room by thinning for use as the plants grow. The beds being narrow the thinning is easily done.

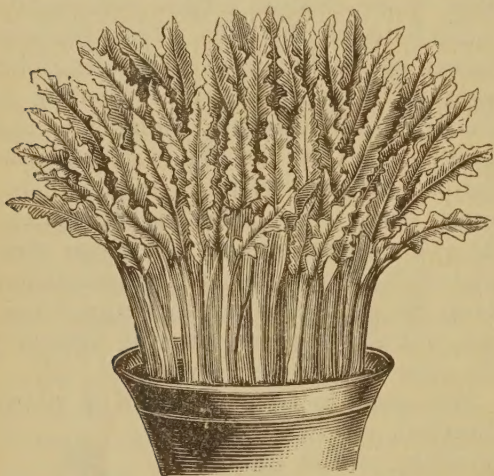
I never try to have the distance between the plants exactly equal, but simply keep them from crowding. In this way I have grown very large heads without hoeing, and, as the plants keep the ground shaded, no weeding is required. Heads can be kept from going to seed for quite a while by cutting about half way through the stem at its base, leaving the plant just enough nourishment from the roots to keep it from wilting. When the heat of summer arrives, Lettuce must have a cool, partly shaded situation, and an abundance of water. This is the secret of raising fine heads of Lettuce in hot weather. Try the north side of a building or tight fence, or a frame artificially shaded, and you will be surprised at



CHICORY.

what can be done at raising Lettuce, even in midsummer.

Early Egg and Tennis Ball are good for forcing, Drumhead is large and solid, All the Year Round, and Satisfaction are slow to run to seed, Hanson grows to extraordinary size, Paris Cos stands summer heat well, but must be tied up a few days to blanch the inner leaves. The finely curled varieties, so much used for garnishing, will bear shearing several times if the heart is not injured. There



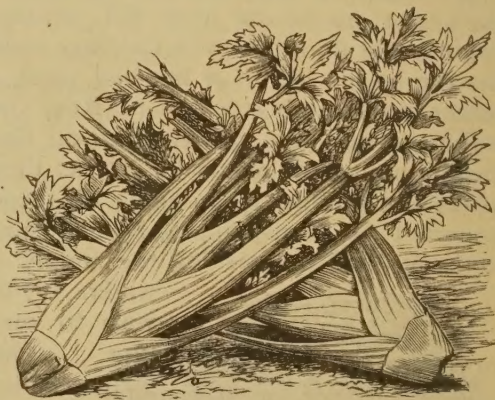
CHICORY BLANCHED, READY TO CUT.

are many other varieties equally good, each possessing some merits of its own.

For winter use I sow Hardy Green Winter, or Hammersmith, as it is sometimes called, exclusively, as it proves the most hardy. In this latitude we sow from the middle to the latter part of September. The bed must have good drainage or no success can be hoped for. On approach of winter, cover with six or eight inches of clean straw. Leaves or litter will do if no straw can be had, but I prefer straw, as it is so much cleaner, is not apt to be blown away and it is not so liable to smother the plants, as it can be put on to lie more loosely. About the time the ground begins to freeze put on part of the covering, gradually adding the rest as the cold increases. For winter use sow or transplant during September or October in cold-frames against a south wall, and if no greenhouse is on hand, have the frame against the air hole of a warm cellar, to let in a little warmth from that source in severe cold. The sash must fit snugly, the sides be banked up well, and in severe cold the top should be covered with some good matting and oil cloth, to exclude frost.

Give air whenever the weather will permit. This will give you Lettuce all winter, and in spring, when the bed in the garden is uncovered, a few days' growth will render it fit for use, besides giving plenty strong plants for transplanting.

Endive, when properly blanched, makes an excellent salad, though in its natural state it is very bitter. As this plant is principally used as a late summer, fall and winter salad, the seed may be sown from June first to middle of July, and for winter use, the latter part of August. Prepare and enrich the soil as for Lettuce. Sow in drills nine inches apart, and cover nearly half an inch deep. Thin to nine inches apart, and transplant those removed into another bed. The Batavian, which grows larger than the Curled, should stand about a foot apart each way. Cultivate and supply water as directed for Lettuce. When nearly full grown tie the outside leaves together over the center to blanch the heart. This should always be done when the leaves are dry, as much moisture causes them to decay. I tie near both top and bottom to hold the leaves together firmly. It will blanch in eight or ten days and remain in good condition for about a week, therefore a few plants should be



CELERY.

tied up every week or so, to secure succession. Any thing to exclude the light will do the blanching, such as an inverted box or pot, or a cloth or mat placed over the plants, but I prefer tying up to any of these methods.

When cold weather sets in remove to cold-frames, as described for Lettuce, or to a cool, light and well ventilated cellar. Remove with plenty of soil adhering to the roots, setting them as near as possible

without crowding each other. Give air occasionally, and tie up as wanted for use. If the cellar is used prepare a bed of earth six inches deep to set the plants in. It will not keep in a dark, warm and damp cellar, there is no use trying. Endive cannot bear much frost, therefore care is necessary to keep it free from cold during winter.



CORN SALAD.

If the soil is kept only moderately moist and the plants occasionally gone over to remove all dead and decaying leaves, Endive salad may be enjoyed nearly all winter.

Chicory is cultivated extensively in parts of Europe, not for salad, but for its roots, which are sliced, roasted and used as an addition to Coffee. In this country, however, Chicory is chiefly cultivated for its leaves, which are blanched and used for winter salad. The plant is well suited with soil that will grow good Carrots or Parsnips; that is, deep, rich soil, and the cultivation is about the same. In fall the roots should be dug and stored in the cellar, and be given a few weeks' rest. When wanted for salad the roots should be planted in a pot or box of earth, and then be watered and set away in a warm, dark place for the leaves to grow and blanch. In about two weeks it will be fit for use.



CRESS.

If there is no corner in the cellar that is warm and dark enough, the pot or box containing the roots may be placed behind the kitchen stove and covered with a large box or pot to exclude the light. When properly forced it should be about a foot long, pure yellow and very tender.

Celery is one of the most popular salad plants used in this country. The difficulties connected with its cultivation are frequently so exaggerated as to deter many persons from raising it. Of course, good Celery is not to be had for the asking, but the impediments are not so great as some would suppose, as it can be raised

even without a hot-bed by sowing seeds early in boxes in the house, or by sowing later in the open ground. However, if a hot-bed can be had sow the seeds in it, and keep the bed well watered. When two or three inches high transplant to the open ground where they are to remain till they have grown strong and stocky, say six inches high. It should at all times have plenty water and a very rich soil. Now dig trenches twelve or fourteen inches deep and a foot or more wide. Fill in six inches well-rotted horse manure and mix thoroughly half a spade deep with the ground below. Set the plants in these trenches about half a foot apart, and press the earth firmly around each plant, and keep well supplied with water thereafter. The trenches should be copiously supplied with water every evening. If you have a mind to give them special treatment, an occasional drink of liquid manure, weak soap suds or water in which finely chopped horses' hoofs have been soaked for quite a while will be found beneficial. Hen manure is also a good fertilizer, and a light sprinkling of salt will be found good. The blanching, or earthing up, should be done at intervals as the plants grow.



CHIVES.

The principal precautions are to hold the stems together firmly to keep the ground out of the heart, and always bank up when plants are perfectly dry. Keep the stems from sprawling and induce upright growth from the beginning by firmly pressing earth around the bottom of each plant, or by tying the stems together with a string. For winter use, lift with as much soil as will adhere to the roots, and store in earth or sand in the cellar, in an upright position, to the same depth as it stood in the trenches. It can be wintered out of doors in trenches, provided the trenches have good drainage. The top should be covered with short boards laid crosswise, so that a small quantity can be uncovered as wanted for use. The top of the boards and sides of the trench should be covered with straw, leaves, or any other material that will exclude severe cold and rain.

I would advise beginners to grow

dwarf varieties, as they are more easily managed than the large-growing sorts.

Corn Salad forms no head and requires no blanching, but is used in its natural green state, being very wholesome and entirely free from any bitter taste. It will grow in any good garden soil, often doing well from self-sown seed, but very rich soil greatly improves its size and quality. It does not bear transplanting well, therefore sow seed where plants are wanted, from the middle of August to the first of September. Part may be used in fall, and even during a mild spell in winter, the rest in early spring. It is more hardy than Lettuce, and I have had it survive some pretty severe winters unprotected, but it is not safe. Corn Salad should have the same treatment as directed for winter Lettuce, but should be sown earlier, and the protection should be somewhat less. Seed may be sown in spring, if put in early enough to mature before hot weather sets in.

To the above list of plants, I would add Cress, Mustard and Chives, for flavoring. Although Cress and Mustard are sometimes used alone, I think it is too pungent for many people's tastes, but a little

of either added to salads gives a relish liked by most persons. For those who prefer the flavor of Onions, Chives is just the thing. Cress and Mustard grow very rapidly on rich soil, therefore sowings should be made at intervals of about two weeks. It should be used when young and tender when about two inches high.

Chives are perennial, perfectly hardy, and are propagated by dividing the roots, which resemble miniature Onions. The tops can be shorn throughout the whole season, and possess the flavor of Onions exactly, but are superior to it, as they are not so coarse and strong scented.

In conclusion, I would advise all who possibly can, to raise their own salad plants, as that is the best way to secure them fresh and unwilted, a condition in which they can rarely, if ever, be purchased on our markets or from the wagon of the vegetable dealer. Besides this, I offer the same inducement as BURNS offers for gathering wealth in his "Epistle to a Young Friend," where he says,

"Not for to hide it in a hedge,
Nor for a train attendant;
But for the glorious privilege
Of being independant."

—MISS L. M. MOLL, *Mascoutah, Illinois.*

HOW TO START A TIMBER PLANTATION.

In a former article I spoke of the profit of timber growing, and gave some figures which I could vouch for, to show that in many localities the planting of timber is likely to prove one of the safest and most profitable investments that the farmer can make. The past season has furnished strong proof of another advantage of timber belts, which is of sufficient importance to have large influences in inducing farmers to plant timber. I refer to the protection which timber affords to winter grain, grasses and stock.

It is known to all readers of agricultural papers that through a large breadth of our best farming lands more grain was winter killed during the past winter than was ever known in a single season before. My own County of Butler, Ohio, suffered as much, perhaps, as any, more than half the winter grain being totally killed. As crop reporter for the Department at Washington, I paid close attention to the condition of grain, and I found that invariably when I found a field that promised a profitable yield, it was due to

the protection of timber. Even a tall hedge along the side of a field saved a wide belt, and when a field could be found with timber on the west and north it was but little injured, even though extending sixty or eighty rods. Early seeding and fine condition the previous autumn, liberal manuring and the most thorough preparation of seed bed, all counted for nothing, but wherever a timber belt was found bordering a field, there was a good crop. This confirms a statement made by Professor TOWNSEND, in a lecture before the agricultural class at the State University, that "on the prairie lands of the west it had been found that with one-sixth of the land planted in timber, the remaining five-sixths produced as much grain as the entire amount without the protection of the timber."

I am not a nurseryman, and cannot give directions for growing all kinds of trees from the seed, but I have had large experience with the Locust and Soft Maple, and would always grow my own

trees of these varieties. I am often asked if it is not best to sow the seed in the plantation where the trees are to stand? I answer, by all means grow the plants in the nursery, and transplant at one year old. It would be well nigh impossible on most land to get a perfect stand, and the care of the young plants would be ten-fold as great as in the nursery. The young trees are small and delicate when they first come up, and must have good care and a rich, mellow soil, and the spot chosen for the nursery should be of this character and free from weed seed. Enough plants to set an acre can be grown on from five to ten square rods, and either Maple or Locust will, with good care, make a growth of three or four feet the first summer.

A timber plantation will flourish on poor land, or even on cold, wet land which cannot be profitably cultivated, and it would be difficult, if not impossible, to start your seedlings on such soil. I have made six different plantings of Locust and Maple timber during the last ten years, all of which have made a satisfactory growth, yet one of them, of over two thousand trees, is on a piece of cold, wet, clay land, where the water stands until late in the spring, and another crosses a yellow clay hillside, from which the soil has been washed away until it would not produce grain.

Locust seed may be planted from the middle of April to the middle of June, but the same conditions which are best for Corn are also for this seed, so that ordinarily the first half of May is the best time to plant. To ensure germination the seed must be scalded. The water should not be boiling, but a pint of cold water poured into a gallon that is boiling will give the right temperature. Pour enough of this hot water on the seed to cover it, and let it stand till cold. You will then find quite a proportion of the seed swollen to three or four times the natural size. These should be separated and hot water again applied to the remainder. Some seeds swell more readily than others, and while two applications of hot water will sometimes be sufficient, I have occasionally had to make four or five. The swollen seed will come up as quickly and grow as readily as Corn. I use a mason's sieve, with five meshes to the inch to separate the seed and to en-

able it to be handled readily. I dry it in the sun, but it should not be allowed to remain out longer than to simply dry the outside. A small quantity can be sown by hand, but the work can be done more evenly and rapidly with a good garden drill. Make the rows as straight as possible, as it will save hand weeding, and cover about one inch deep.

The Soft Maple seeds need no preparation, but should be gathered and sown as soon as it ripens, which is a little earlier than Strawberries ripen, usually the last ten days of May. If sown at this time the seed comes up in about a week. Unless the plants are to be dug by horse power the rows need not be over three feet apart, and the plants may stand quite thick—six or eight to the foot—in the row; this applies to both Locust and Maples. Cultivation should be thorough and continued as long as there is danger of weeds. Always transplant at one year old, as if allowed to stand over till the second year the labor of transplanting will be very great, and the damage to the trees much increased.

The customary price for seedlings is about \$10.00 per thousand for Locust, and \$5.00 for Maple, and I would much rather pay this for yearlings than take two-year-old trees as a gift. I greatly prefer a tree about three feet high, and recommend the close planting to produce them, for if but two or three trees are allowed to the foot of a nursery row, they will often put out side branches and grow five or six feet tall.

The earlier in the spring the plantation is set the better, but the land should be in good condition. Plow and harrow it till it is fine, and then lay off the rows with a two-horse plow, making a deep furrow. My first plantings were made four feet apart each way, but I believe it much better to plant rows eight feet apart, and the trees two to three feet in the row, as this gives a chance in thinning to vary the space and select the best trees.

In planting, a boy holds the tree upright in its place, and two men with light shovels throw the earth to the roots and tramp it down. I find the best implement for this, and for much garden work, is a common gravel shovel cut down to about six inches wide and ten long. The plantation should be cultivated for one

or two seasons, and will need a little pruning of the side branches for three years; at three years old it may be seeded to grass, and the following year may be pastured with yearling calves. The thinning may begin as soon as the trees are large enough for bean poles, and continue till they are large enough for fence stakes, and are reduced to four to the square rod.

Make your plantations, 1st, on lands least suited to cultivation, hillsides, irregular-shaped pieces of land cut off by a run, or on thin worn fields; 2d, plant belts along the north and west sides of your best grain producing fields. A strip

two rods wide across two sides of a square containing forty acres would only occupy two acres of land, and with four trees to the square rod would contain over twelve hundred trees, and while protecting the fields so that there would be an actual increase of grain, they would in fifteen or twenty years grow a large money value of timber. When our farmers once take hold of tree planting systematically, they will find it easy to accomplish, and that for the outlay in cash and labor it will add more to the value of their farms and bring in more money than anything they can undertake.—
WALDO F. BROWN.

THAT PLANT TABLE.

In the July number of the MAGAZINE I notice a request for a sketch and description of the stand and table I spoke of in a former number. I am not much of an artist, and am, therefore somewhat doubt-

constructed in any way to suit the taste of the owner. The main thing to have in mind in making this part of the table is strength, for the weight it must support will be considerable. If not strong, the



ful of my ability to illustrate an article very satisfactorily, but I will send a sketch from which your artist can probably gain an idea of the table, and he can elaborate it to suit himself.

Of course, the legs or bottom can be

table when filled with plants cannot be moved or turned about without racking it. Therefore, tell your carpenter to make it substantial. If of hard wood it will be much stouter than of Pine. I procured mine of a cabinet-maker, and had

it put up in Ash. I shall not give any proportions, preferring to have the builder, or the person ordering it, to decide that part of the matter. The size of the windows at which it is to be used will have to govern the size of the table. About the edge of the table is a strip two inches in depth. After putting this on the table was painted several coats inside, making it thoroughly water tight. When ready for use, sand to the depth of an inch was spread over the bottom, and the pots stand on this, and no saucers are used. If so much water is given that some runs out at the bottom of the pots, the sand absorbs it. I keep this sand wet all the time, and it gives off a steady supply of moisture, which is very beneficial to the plants. Thus it will be seen that the sand serves the two-fold purpose of taking up surplus water and giving off moisture. About the edge of the table is a lattice-like trellis about eight inches high, on which vines are trained. This serves to hide the pots, and is very ornamental when well covered with the foliage of Ivy, Madeira Vine or anything else of a like habit of growth. Over the table are arches of iron which cross each other in the center, and are connected across the ends and sides of the table. Up and over these I train vines with very pleasing effect. Where the arches cross in the center, a bird cage can be hung, or a drooping plant. In the center of the table, under the arch, a tall vase is most

effective, with other plants grouped tastefully about it. Such a table keeps all the litter and drip from the carpet, and will be found to be much more satisfactory, I think, than the ordinary plant-stand, made on the plan of shelves. It can be turned around, so that the plants get light on both sides, without changing the position of the pots. It ought not to be very high from the floor. I would have it of such a height that the top of the smallest pots would be about on a level with the window sill.

If any one objects to the use of sand without some covering, he can put moss between the pots, or plant *Lycopodium*. The sand, if kept clean and free from dead leaves and other litter, is not at all unsightly. Such a table can be used in any square-cornered bay window, if it is not desirable to have shelves fastened there; but it was designed, and is more suitable, for the ordinary windows in the house. The cost of it is not much, unless one goes to unnecessary expense in the material and ornamentation of it. Of course, it would be possible to make it expensive, but I prefer to let the ornamentation be done by the plants rather than by the table. Let it be solid, substantial and neat, but not over elaborate, unless one can well afford it, and the room it is used in has fine furniture with which a plain table would seem out of place.—EBEN E. REXFORD, *Shiocton, Wisconsin*.

OIL-STOVES IN CONSERVATORIES.

It will be remembered by many readers of the MAGAZINE that I asked for information, last year, regarding oil-stoves for conservatory heating. I received many letters in answer to my inquiry, from parties who had used them. All agreed on their efficiency as heaters, but there seemed to be a difference of opinion regarding their effect on plants, and the odor emanating from them. One man wrote, his stove gave off such an offensive smell that it fairly nauseated him, and his clothing seemed to be saturated with it after leaving the greenhouse in which it was used.

Another party, a well known commercial plant grower, wrote that oil-stoves were used in his propagating house with no bad results whatever, and without

any disagreeable odor. The first party wrote that he had had a sheet iron drum made for his stove to which he attached a pipe, which ran up through the roof of his little greenhouse. This effectually carried off all odor, and he had thereafter no trouble with his stove, and succeeded in wintering his plants in fine condition. Other parties who had not attached pipes to their stoves, told me that they thought the gas given off during the night injured their plants, but none of them seemed quite sure about it.

The conservatory I desired to heat is about eight by sixteen feet, ten feet high, and is attached to the second story of the building, being built over a platform extending in front of the building on the ground, and is, therefore, exposed below.

In building it I took great pains to make the bottom tight, and had two air places between the lower ceiling and the inner floor. These I lined with old newspapers, placing several thicknesses of them between each space, using thin strips of wood to hold them in place. In this way I constructed a floor which has proved to be perfectly frost proof. The ends and one side of the conservatory are exposed, and one would quite naturally suppose that such a room, especially a room exposed below as well as on the walls, would be rather difficult to warm; but such has not been the case. I procured a three-burner stove made for heating purposes. It will hold a gallon and a half of oil, enough to burn about eighteen hours with the wicks turned up well. I had another drum made for the stove, large enough to slip on over the one attached by the manufacturer, with a collar for a two-inch pipe on the back at the top. I had several feet of ordinary tin pipe made, with several elbows to facilitate the use of the pipe in any desired place. When cold weather came I put the stove in operation. I noticed that when the pipe ran straight up from the stove a great deal of heat passed off, therefore in order to save as much heat as possible, I had an opening made in one end of the conservatory, over the the sash, and ran the pipe on a level with the stove two-thirds the length of the room, then up and out, and in this way I saved a great deal of heat, which, with too short, or too straight, a pipe, is wasted. I kept a large pan of water on top of the drum, and this gave off steam which helped to warm the room, and was very beneficial to the plants. I kept such plants as *Coleus*, *Begonia*, *Heliotrope* and *Bouvardias* nearest the stove, and *Geraniums*, *Carnations* and the hardier plants in the other end.

On some of our coldest nights, when

the thermometer went down to 30° below zero outside, I got up to take observations in the conservatory, and never found the thermometer below 50° above. One stove with three four-inch burners has proved to be all that was needed to keep the plants warm, and I never had healthier plants. The pipe drew off all the odor and gas, for on going near the end of the pipe reaching through the wall outside, it was an easy matter to decide this by our olfactories. I have never had any trouble with the stove in any way. I am inclined to think that many persons using these stoves are not careful enough to keep them clean. If not cleaned regularly they will produce a bad smell, but if taken care of, as one would care for a lamp, I think, the odor from them would not be very objectionable, and if the conservatory was not connected with my study, I should not hesitate to use the stove without a pipe. But as I often neglected to give the stove the attention it required, I thought best to use the pipe, for with it, I knew there was no danger of getting too strong a dose of gas. The stove was put in operation at eight o'clock each night, and kept burning until seven next morning, and in the eleven hours it would use less than a gallon of oil.

I spoke of cleanliness as a pretty effectual preventive of bad odors. I ought to have said cleanliness and good oil. Poor, cheap oil is a nuisance, and will fill the room with a bad odor, no matter what precautions you take to prevent it. Good oil is the best, for it will burn much longer, give a better heat, and is, therefore, really the cheapest, and with it you need give the stove no special attention.* With poor oil your wicks will crust over, and towards morning the flame will die down and the heat diminish at the very time when it is needed most.—EBEN E. REXFORD.



FOREIGN NOTES.

ST. JOHN'S WORT.

The following notes by M. C. J., in *Gardening Illustrated*, in regard to this bright, yellow-flowered plant, which grows so generally in pastures and neglected fields and on the roadsides in this country, will interest many readers:

"The St. John's Wort, *Hypericum perforatum*, has a strong, lemon-like scent when bruised between the hands, and the fingers are stained with a darkish purple-colored juice contained in the leaves and petals. As this plant was found to bleed at the least touch, it was in former times supposed to possess many healing qualities, so much so that it was named the 'Balm of the Warrior's Wounds.' The lower classes in France and Germany pick this species with great ceremony on the 24th of June, St. John's Day, and hang it in their houses as a charm against storms, thunder, and evil spirits. Some of our old medical writers gave it the name of *Fuga dæmonum*, as they supposed it to be good against maniacal and hypochondriacal disorders. It was also used by the Scotch formerly, as a preventive of enchantment and witchcraft."

In further explanation of its aromatic properties, we may say that the leaves of this plant are filled with oil cells, which are the source of the aroma. These cells or glands are transparent, and when the leaves are held up to the light they appear like so many little holes or punctures, and it is this feature of them that suggested its specific name, *perforatum*.

THE DAIMYO OAK.

Quercus Daimyo, a magnificent Japanese Oak, often possesses enormous leaves, measuring upwards of fourteen inches in length by eight inches in breadth. In outline they are rather deeply lobed; the color is a bright amber, inclined to red, and the whole blade of the leaf is traversed by deep red veins. This Oak seems to be scarcely known yet, though it is such a handsome one, and even in a small state forms a fine object.—N., in *The Garden*.

MILDEW ON ROSES.

A friend of mine had lately to submit to a surgical operation, and used as an antiseptic the last one which has come into use, viz.: a solution of one-half in a thousand (1-2000) of deuto-chloride of mercury, (*sublimé corrosif*). When he could begin to move, he went to his garden to see the Roses he is passionately fond of, and found them covered with mildew. On the principle of the gander and the goose, he sprinkled them with a very thin spray of his disinfectant, and cured them perfectly. I have not got the blight, and cannot try it actually. You may object to the use of such a potent poison in careless hands. The best way to prepare it, as it does not dissolve well in water, is to have it in a strong alcoholic graduated tincture, and to dilute it with water when wanted for use.—JEAN VAN VOLXEM, in *Gardeners' Chronicle*.

STATUE TO PARMENTIER.

In France, the introduction of the Potato into general use as an article of diet dates from 1785, when PARMENTIER, who had been encouraged by the King, LOUIS XVI, offered his Majesty at the Tuilleries a bouquet of Potato flowers, on August 25th, 1785. The King placed one of the flowers in his button-hole, caused the Potatoes to be served at his table, and warmly congratulated PARMENTIER. In this way the prejudice against the tuber was ultimately dispelled, and now PARMENTIER is to have a statue.—*Gardeners' Chronicle*.

JUBILEE OF QUEEN VICTORIA.

Only three British Sovereigns have ever seen the opening of the fiftieth year of their reign; these were HENRY III, EDWARD III and GEORGE III. The *Gardeners' Chronicle* announces that "the auspicious date of the 'Year of Jubilee' of Her Majesty Queen VICTORIA, is the 20th day of June, 1886. The half century of her reign will be completed on the 20th of June, 1887, but the precedents are in favor of the 'Jubilee' being held at the

beginning and not at the end of the fiftieth year." Great celebrations will probably honor this event.

A TUBEROUS MUSTARD.

The *Revue Horticole*, in a late issue, gives a figure, which is here reproduced, and an account of a tuberous variety of Mustard, *Sinapis tuberosa*, that has, within a short time, been received in



France from China, where it originated. In regard to it the journal's remarks may be translated as follows: It is doubly interesting, first, as a new alimentary plant, and afterwards, from a scientific point of view, showing, as it does by its fleshy roots, some characters which, until this time, have never been noticed in the genus *Sinapis*.

The plant is an annual of vigorous growth, leaves large and lyrate in form, very much like those of many varieties of Turnips. The root is regularly pyriform, white, attaining a size of three inches and more in diameter; a white skin without fibrous roots, except a few at the base; flesh white, not stringy, but little watery, or even a little dry, rather a little sweet than sharp or biting in taste, recalling the taste of some of the best Turnips, consequently constituting it a good table vegetable, but exactly what its position will be cannot now be stated. As the plant produces a great amount of foliage it is thought that it may serve as a forage plant.

The cultivation of the Tuberous Mustard is similar to that of the Turnip. The seed can be sown the latter part of summer, in rich, well prepared soil.

NEW ROSES.

With regard to new Roses, there is very little to record. Mr. HENRY BENNETT has succeeded in raising a new Rose, Mrs. John Laing, which, if I mistake not, will be a much greater favorite than Her Majesty, and he is evidently reaping the results now of his careful hybridizing. That wonderfully puffed Rose, Gloire Lyonnaise, which was described as a Yellow Perpetual has proved an egregious take-in. It is a pretty Rose, of the Captain Christy type, but yellow! Well, you may discover at the base of the petals the very slightest tinge of sulphur yellow. It may be, as was said to me by a thoroughly good rosarian, that it is a forerunner of a new race, and that is its claim to merit. Perhaps so; but the same was said of La France, of the same raiser, but nothing came of it. It remains, indeed, one of the grandest Roses for the exhibitor and the garden that we have, but it has produced no progeny. Merveille de Lyon has proved, I fear, a disappointing Rose. Nothing can equal

its purity when caught in perfection; but, alas, that is too seldom. In every stand that I have seen of it, this year, there was always a large number which showed the eye. A new Tea Rose, Madame de Watteville, is likely to become a general favorite. It is white, slightly shaded and edged with salmon, and is very attractive. The Hon. Edith Gifford has fully established its claim to be one of the best of its class. Ulrich Brunner, though not a new Rose, has come out marvellously this year, and, indeed, if any Rose may claim to give a title to the year, one may say it was an Ulrich Brunner year. I have not seen Messrs. PAUL & SONS' Madame Norman Neruda, so can say nothing about it, but I hear a very high character of it.—D., in *Journal of Horticulture*.

PRESERVING FLOWER BUDS.

The following, from a writer in *Gardening Illustrated*, will be of interest to many. Have any of your readers tried the following receipt for preserving flower buds, so that they will bloom one or two months after being picked? Gather the buds when nearly ready to open, and seal up the end of the stalk with sealing wax, wrap the bud in tissue

paper, and put in a tin box perfectly air tight. When the bud is wanted to open, cut off the sealing wax and immerse the stalk in water, in which a little salt petre has been added. I was very skeptical of the success of this plan when first told of it. I have tried it with Rose buds, however, and succeeded perfectly.

MILDEW, APHIS AND RED SPIDER.

Some months since a correspondent of the *Gardeners' Chronicle* recommended the use of sulphide of potassium as a remedy for mildew on plants, and for the destruction of red spider, detailing briefly some experiments in its use, and advising others to make similar trials. A quarter of an ounce of sulphide of potassium is dissolved in a gallon of water, the writer also remarking, "I have frequently used half an ounce to the gallon without mischief, but a quarter of an ounce is sufficient." The liquid is applied with a syringe.

A late number of the same journal gives an account of a number of trials with this substance, all of which are completely satisfactory. The following are the statements of one party: "I have given the sulphide of potassium a fair trial, and the excellent effect it has produced is more than satisfactory—it is marvellous. The first trial was made on old winter Cucumbers badly infested with mildew. One syringing nearly cleaned them, a second completely destroyed the pest. This was in April, and the plants still (August,) remain clean and healthy. The second attack was made on red spider, also on Cucumbers. Two dressings destroyed the spider, and the plants were in no way injured. The third and most important trial was made on an old vine attacked by spider and mildew, and although my stock of sulphide ran short the result was equally satisfactory. On Saturday last a young melon plant, infested with a very troublesome pest, black aphis, was well syringed. The plant is now clean and growing freely."

Another case was that of Cinerarias

"badly attacked with mildew," which were syringed twice with a weak solution of sulphide of potassium, with the effect of entirely destroying the pest. The substance is cheap and is easily applied, and plant growers should make trial of it.

CLEMATIS JACKMANNI.

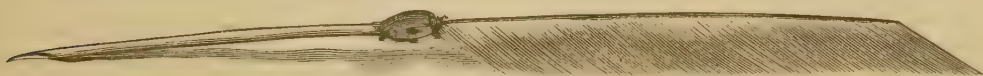
In the beautiful gardens at Castle Hill, North Devon, this favorite plant revels in beauty, where Mr. NICHOLAS, the gardener, grows it in rather a novel way. Stretched across one of the kitchen gardens adjoining a path are wires placed and strained, as is usually done for espalier fruit trees, and on these are trained the abundance of luxuriant growths, the result being a beautiful hedge one hundred feet in length and about four feet in height. At the present time it is a mass of lovely deep violet-purple flowers, a gorgeous sight. Mr. NICHOLAS believes in a deep, rich, loamy soil for the Clematis, liquid manure frequently, and liberal dressing on and under the surface.—W. N., in *Gardeners' Chronicle*.

GAS LIME.

An English writer says of gas lime, "The gardener of the Lock Hospital, Harrow Road, put five tons of the lime to every half acre of the garden ground, he allowed it to be exposed to the weather for four weeks, and then it was spread all over the ground; then manured and dug in. The results have been wonderfully satisfactory." For several years it had been almost impossible to raise Onions or Cabbage on this land on account of wireworms and Cabbage butterflies. This season after the liming there is a fine crop of Onions and Cabbage and almost an entire absence of insects.

FUCHSIAS FROM OLD WOOD.

A writer in *The Garden* states that he propagated Fuchsias from cuttings of hard wood, last winter. They were inserted in sandy soil and placed under a hand-light, in a cool house. The cuttings all struck, grew freely, and made good plants.



PLEASANT GOSSIP.

ANTIGONON LEPTOPUS.

As an old customer and acquaintance of yours through the medium of the FLORAL GUIDE, I take the liberty of sending you, by to-day's mail, the bloom and a few leaves of a vine which I have growing in my yard. It is about thirty feet in length, and with its bright green foliage and long, graceful clusters of flowers, is a plant of such exquisite beauty that it attracts the attention of every passer-by. *Antigonon leptopus* is the only botanical name I have found for it. To one, like yourself, who has spent a lifetime in the study of flowers, this one can hardly be an entire stranger, but as I find no mention of it in your catalogue, will take it for granted that I have found a flower which Mr. Vick ought to have. I will save you some of the seed, and if you wish me to do so, will, at the proper time, send you a rooted plant. Any information that I can give in regard to its history or habits will be cheerfully sent you.—F. K. J., *Columbus, Ga.*

We have received specimens of this Polygonaceous plant several times in the last few years. By all accounts it is a most beautiful climber in tropical countries. It can be raised at the north only in hot houses, and judging from reports that have been made of it when grown in this way, it is not often very satisfactory. Of course, a plant of this character would not be mentioned in our lists, as we strive to disseminate only those plants that can be successfully raised over a wide area of territory, and by persons of little skill, and that, for the most part, will develop in the garden, the frame, the living-room, or at the farthest in the greenhouse with simple treatment.

RESTING BULBOUS PLANTS.

Will you please advise me as to the proper time for resting and drying off fancy *Caladiums*, *Tritonias* and bulbous *Begonias*? I have a number of bulbous *Begonias* in the conservatory in blossom; they have been in full bloom all the summer. I do not know when they should be rested.—M. M., *St. Catharines, Ontario.*

At this season of the year, with diminishing sunlight and heat, the plants you mention, being unable to use as much water as previously, should be supplied with less and less, and this will favor the ripening of their tubers, and bring them into a resting state. The *Tritonias* need not be kept quite dry, but nearly so, in their resting period, and early in the new year they can be repotted and started.

The *Caladiums* and *Begonias* can be allowed finally to become dry, and be removed from the soil and kept two or three months in sand in a warm place in the house, where the temperature will not fall much below 60°. By mid-winter they can be again started into growth.

PLANT QUERIES.

Will you inform me why my variegated *Hydrangea* has not grown? I bought it one year ago last spring, and planted it out in the border last spring, in good, rich soil, and it has hardly grown at all.

I have a *Noisette Rose* that grew and bloomed beautifully last summer. Will it live in the ground this winter without protection?

Also, tell me how to treat my *Calceolaria* to make fine growth and bloom.

Is the *Floribunda Lily* the same as *Harrisi*, or not?—M. C., *Mulberry, Ind.*

In answer to the first question, we can only say that the Japan variegated *Hydrangea* is usually a good, free grower. But, as is well known to most cultivators, plants with leaves variegated by absence of the green coloring matter have less constitutional vigor than those with the usual green foliage. And again, in propagating such variegated plants it often happens that a cutting that is particularly attractive by the little green color it exhibits, perpetuates itself in a weak plant—weaker than those showing more green. These statements may have some bearing on the question, or they may not, the appearance of the plant must decide it. At present, the plant should be allowed to rest. The last of winter it can be potted in good soil and be given another trial in the greenhouse or window garden.

It will not be safe to leave the *Rose* out without giving it good protection. Draw some soil up about it, and then cover with evergreen boughs or tree leaves.

A plant of *Calceolaria* at this time ought to be a finely developed plant, having nearly completed its growth. From this time forward until the blooming season in spring, about all it will need will be careful attention to keeping the soil properly moist, supplying neither too much nor too little water, not wetting

the foliage, and exposing the plant well to the light, in a temperature of 50° to 65°.

Lilium Harrisi, we notice, is also called *L. floribunda* in some catalogues.

POMOLOGICAL.

At the late meeting of the American Pomological Society, Professor ARTHUR, of the New York Experiment Station, spoke at length, detailing his investigations of the nature of the so called fire blight of Pear and Apple trees. He concurred with Professor BURRILL, of Illinois, who first discovered and announced the cause of this disease to be due to one species of bacteria in the fluids of the plants. The germs enter the young growing shoots of the trees while they are very tender, and also, the ovaries of the flowers, and the tender, newly-formed fruits. The remedy is to cut away the diseased limbs, always cutting at least a foot below the lowest spot where the effects of the disease are apparent. Professor BAUR, of Ann Arbor, Michigan, had had no success in arresting the progress of the disease by cutting away the blighted branches, but he applied salt to the trees and the blight ceased, and those trees are now fruitful.

In the discussion on Strawberries, PARKER EARLE, of Southern Illinois, stated he had tried many varieties, and succeeded only with the Crescent. He used Sharpless only to pollenize the Crescent.

NORMAN J. COLMAN, Commissioner of Agriculture, has succeeded best with the Wilson, and found it superior to the Crescent.

Mr. EARLE stated that the Wilson suffered too much from rust and the attacks of the Tarnished Plant Bug.

Mr. MORRILL, of Michigan, said that on the lake shore they had decided upon the Crescent for an early variety for light soils, and Sharpless for late on heavy soils.

Mr. HOPE, of Georgia, said that in his neighborhood the Sharpless was best; the best three varieties he had found to be the Sharpless, the Wilson and the Crescent.

Mr. E. M. ENGLE, of Pennsylvania, had found Sharpless the best; the Crescent was good, but not so profitable as the Sharpless.

Fay's Prolific Currant was very generally reported as one of the best.

In regard to new Apples, we condense statements made about some of the most promising:

The Yellow Transparent was inquired about, and Mr. GIDEON, of Minnesota, said that it was of Russian origin, and about as hardy as Oldenburg. Its quality is very good. Mr. CHASE, of Pennsylvania, found it earlier than the Early Harvest, and regarded it as an early cooking Apple. Professor BUDD said it was two weeks earlier than Red Astrachan. Judge PARRY, of New Jersey, said: "It does well with us; very fair; of good size; much superior to Early Harvest—a valuable early Apple."

Mr. MOORE, of Pennsylvania, mentioned the Dickinson as a fine red Apple of good size. Mr. CHASE, of Pennsylvania, said it was a seedling of Yellow Bellflower, and like it in habit and in quality, and thought it should be recommended for Pennsylvania.

The Shannon Apple, which attracted much attention last winter at the New Orleans Exposition, taking several premiums, was discussed, and concluded to be valuable only in the mountain regions of Arkansas, and desirable for a market variety rather than for quality.

The Slast Apple was mentioned by Professor BUDD as one of fifty good sorts found among a large number of varieties imported by the Department of Agriculture at Washington.

The Charlottenthaler, or Thaler, as Professor BUDD says it is now proposed to call it, was said by him to be of the Yellow Transparent class, ripening five or six days later than that variety.

Professor BUDD remarked that the Oldenburg, which is usually considered the hardiest variety, was not the hardiest after all, and mentioned several kinds more hardy. Mr. GIDEON, of Minnesota, said: "Before last winter we thought Oldenburg and Wealthy were our hardiest sorts; but last winter took these down, cleaned them out on our grounds—a deep, black, sandy loam. In fact, it killed nearly all kinds, except the Siberian Crab. Of these we have now several new seedlings, which are very promising. The more Crab we get in their composition the hardier they are, invariably."

A very spirited discussion was held in regard to the Mann Apple, with the con-

clusion that it does not succeed well west of Lake Michigan. Mr. LYON, of Michigan, stated that it was sufficiently hardy for that State, but it was not fit to eat, and he did not think it was fit to cook. He thought we should protest against sending out Apples not fit to eat, but which appear well in market—their only merit. Mr. WOODWARD remarked that though none consider the Mann a very good Apple, we must remember that when it is fit to eat, the last of spring or in early summer, very few others are to be had.

The Lou was mentioned by Mr. GIDEON as a seedling of the Oldenburg, and ten days earlier, or two weeks earlier than Tetofsky; an excellent eating Apple, tree extremely hardy, and a heavy bearer.

Professor BUDD called attention to a Russian variety that he thought should now have more general notice. Its Russian name is Longerfeldskoe, which, as near as he could make it in English, is Longfield. The quality, he said, was quite as good as Fameuse, and the tree hardier.

GEORGE W. CAMPBELL, of Ohio, read a paper on "The Improvement of American Grapes."

T. V. MUNSON, of Texas, read a paper on "American Grapes," exhibiting a new method of their classification, and stating many important facts in regard to them, of which a knowledge had been obtained by years of experimenting and observation. The paper was received with many complimentary expressions from the members.

Professor BUDD remarked that it was necessary at the west to plant vines twenty inches deep in order to protect the roots from freezing. Mr. HUBBARD, of New York, thought deep planting was advisable, and that a foot to fourteen inches was the proper depth in Western New York.

Wyoming Red was considered a good variety of Grape by Mr. LYMAN, of Virginia. Mr. GANZHORN, of Michigan, had raised it for six years, and it bears a crop every year, is very hardy and ripens before Concord, and of fair quality. T. S. HUBBARD said it was the earliest red Grape, of not good quality, but valuable in some locations; about as good and as early as Concord, rather foxy. C. A.

GREEN, of New York, said it was a handsome Grape, of poor quality. Mr. PHILIPS, of Grand Haven, Michigan, thought it very promising, and well adapted to the shore of Lake Michigan.

The Niagara was a good bearer with Mr. HAYES, of Michigan, but had fruited it but one year. With Mr. LYMAN, of Virginia, it had rotted for three years. Mr. ROGERS said it was as hardy as Concord in New Jersey. With Mr. COLLINS, of New Jersey, it had rotted some.

Empire State was considered as promising by Mr. BARRY, Mr. GREEN, Mr. ROGERS and Mr. CAMPBELL.

Poughkeepsie Red had rotted a little last year with Mr. JOHNSON, of Indiana, but has done well this season.

Ulster Prolific is pronounced by the same party as one of the best Grapes he ever grew. C. A. GREEN said it was a large, red, handsome Grape, of only fair quality, but thought it would be a favorite.

The Hayes had been known to Mr. D. B. SMITH for eleven years. In Massachusetts it is well thought of; it is white, medium size, excellent flavor, hardy, prolific, a week earlier than Concord. Mr. MANNING, of Massachusetts, thinks well of this variety; though not as vigorous as Concord, it is a good grower; last year the vines mildewed. Mr. CAMPBELL, of Ohio, said it had Concord foliage.

Centennial was reported by several members as of no value.

Victoria was mentioned by T. S. HUBBARD as a fair grower, and he thought it better than Martha.

Triumph was reported good for Virginia, Texas and Georgia.

El Dorado was reported not good for general cultivation.

Highland was said to be liable to rot in Virginia. It is a late variety, and not adapted to the North.

Early Victor was stated to be hardy and healthy; a good grower, ripening a week earlier than Concord; very productive, and of good flavor.

Jefferson was considered too late for the North.

Vergennes was favorably mentioned; quality good, extra good keeper, strong grower.

Moore's Early was thought by Professor BUDD to be particularly well adapted to Iowa; it is a week earlier than Worden. It was favorably reported from Virginia,

Wisconsin, New Jersey, Ohio, New York and Massachusetts. Mr. SCOTT and Mr. GANZHORN, of Ann Arbor, Michigan, said that it rotted badly this year.

Lady Washington is too late for the North, does well South.

Prentiss has succeeded only in a few localities.

Worden is earlier and better than Concord, and one of the best early black varieties.

Duchess is somewhat tender, but beautiful and excellent.

Pocklington favorably reported for Michigan, but had disappointed some in Virginia.

Woodruff Red was said to be a vigorous grower, hardy, productive, not of best quality.

KEEPING GRAPES.

A lady who has for several years kept a considerable quantity of Grapes through the winter, makes the following note in reference to it:

Grapes should be picked and allowed to stand three or four days, then sorted and put into small-sized or eight-quart baskets, and hung up in a cool, dry cellar. Thin-skinned varieties, such as Brighton, Concord and Rogers' 44 or Herbert, should be eaten before Christmas. Rogers' 4, 9 and 15, respectively, Wilder, Lindley and Agawam, and also, Salem, are all good keepers. Wilder, Agawam and Salem we ate the last of May, in 1884.

REPOTTING PLANTS.

Some one has said that repotting is the bane of plant culture, and I am inclined to think there is a good deal of truth in the statement. Flowers will not do well if changed too often. I use boxes for most of my flowers, in preference to pots. These are about a foot square, and are filled with rich, soft earth from the woods. The plants when well established are left alone for a year, and sometimes longer. Florists advise the use of small pots, and this is very well in the moist air of the greenhouse, with the pots half buried in moss; but in the dry, hot air of the room, exposed to evaporation on every side, the plants are apt to drop their leaves, and look badly. Don't repot a plant when you first take it from the greenhouse. The change

from the air of the greenhouse to that of the house is already quite a shock to it. Have a box or pot prepared as above. Sink the small pot in it, water well, and let it remain a week or two, until it is accustomed to the new order of things. Then lift out the small pot, turn the plant out in your hand, and drop the ball of earth into the opening left in the large pot; press the earth firmly about it, and it will not drop a leaf. In winter, I fill all the small pots with cuttings, and put them in every little space left among the larger boxes.—V. V.

CLIMBERS FOR ARBORS.

For covering an arbor the most satisfactory climber that I know of in this section of the country is the wild Clematis. I have tried two species, *C. Virginiana* and the rare *C. verticillaris*. The former has become more delicate and graceful in the garden than in its native swamps, while *C. verticillaris*, known as the American Atragene, with its bright green leaves and bluish-purple flowers, is still more ornamental and attractive, and it, too, seems to improve by cultivation.—J. VROOM, *St. Stephen, N. B.*

INTERNAL HEAT OF THE EARTH.

The German Government is endeavoring by means of deep borings to determine the increase of the earth's temperature at different depths. The degrees of heat are registered by a thermometer of ingenious construction. The heat at the bottom of a boring 1392 metres, or 4640 feet, in depth, showed a temperature of 120°, Fahrenheit. At the rate of increase thus indicated it is calculated that the boiling point of water should be reached at a depth of 3000 metres, or less than two miles.

SOME PLANT NAMES.

Mildew, literally flour-dew, a white appearance on the leaves of plants, due to the presence of minute fungus growth.

Pulse comes from a Teutonic word, signifying bag, or sack, or pod.

Asphodel, given by HOMER, MILTON, and later by TENNYSON and others, means a kind of Lily, the root was edible. Other writers give it as Fleur d' Asphodel, or Daffodil.

Pansies are mentioned in Hamlet as flowers of thought, *Pensée*.—S. W. V.

MELBOURNE BOTANICAL GARDEN

In the Botanical Gardens at Melbourne there is a splendid specimen of the *Jubœa spectabilis*, or the Coquito Palm of Chili, which is worth notice. The stem or trunk of the plant is about eight feet in height by a diameter of over four feet, and with the fronds issuing from the



JURGEA SPECTABILIS.

top reaching a height of quite fourteen feet. The stem is brown and husky, like the outer husk of a Coconut.

In the same grounds is a large plant of *Aralia papyrifera*, which has digitate leaves which measure from stem to tip about two feet. The leaves have a light green, velvety surface; the bloom is a small, lilac-colored flower, and the seed vessels are about the size of Peas, notwithstanding the gigantic size of the leaves. —S. W. VINEY, *Melbourne, Australia*.

PRESERVING FRUIT.—Our correspondent, Mrs. S. D. POWER, now so well known to our readers, has brought together in a small compass the most valuable instructions in regard to preserving a great variety of fruits in many ways. The title is *Fruit Pastes, Syrups and Preserves*. It is published by CUPPLES, UPHAM & Co., of Boston, at twenty-five cents. Every house-keeper should have it for reference, and fruit-growers will find that it contains for them valuable hints and advice.

A CALIFORNIA LETTER.

The following extracts are from a letter from SAMUEL P. WAKELEE, of Long Beach, California, formerly of this city, written September 6th:

This is truly the land of Grapes; they are just now in their prime. Of course, they are cheap, retailing at two cents per pound; Muscat of Alexandria, Flame Tokay, Rose of Peru and Black Hamburgh; I know they will pay well at one cent, and such bunches! I cut a bunch of Flame Tokay, this noon, that tipped the scale at three pounds.

I don't know where to begin in describing California; it is a queer place, where the rivers run bottom up, where the fields are brown from June to November, and lush and green from November to May, June butter in January; where squirrels live in the ground, and they run water in stove pipes, and put manure on the roads instead of the fields. People picket their horses and cows out the year round, where nobody is inclined to steal; Lima Beans running on the ground bear a wonderful crop. Such Melons, Peaches and Pears you seldom see east.

Corn is twelve to fifteen feet high, and every ear with a worm or two, which almost ruins it; it does ruin Sweet Corn entirely, and our Sweet Corn we get in cans from Portland, Maine. Figs are now very plenty; my vines are setting their third crop. Antwerp Raspberries are now having a second crop, which is but little less in amount than the first. I have commenced digging Sweet Potatoes, the quality is good. I have just planted Beans and Peas, these are planted every month. My two large Banana trees are now showing fruit; they have been a source of curiosity and interest since they came out. The flower comes on the end of each fruit, and looks like some Orchids. My little hedge of Monterey Cypress, set out in February, when three inches high, is now three feet high and still growing.

I have a fine, large *Clianthus* just coming into bloom. It is two feet high and the same distance across. I expect very much from this as it is full of buds, so different from the little sickly looking

plants we had East. Pelargoniums, *i. e.*, the large, annual-flowering varieties, as well as "Geraniums," bloom the whole year, and one sees some magnificent looking specimens. Just imagine a Gen. Taylor six feet high and in fine proportions and covered with flowers; neither the sun nor wind seems to affect them unfavorably. Carnations, too, do their best all the time, if only you keep the seed-pods cut off. Of course, this year has been a series of experiments with me in growing vegetables, or rather in irrigating; just how much water to use and how often to apply it is one of the things I have had to learn. The place here is so new that I find no one posted, so I have to rely on my own judgment. Of course, I make some mistakes, but another season will correct many of them. One thing I have learned, that is, every time water is applied the surface of the soil must be stirred, not only to kill the weeds, of which Mallows is the worst, but to keep the ground from baking; but after that it is as nice soil to work as I ever saw. One of my neighbors has just harvested a crop of Dwarf Beans planted in June, and they had neither a drop of water, cultivator nor hoe put into them. The squirrels and rabbits took about one-quarter, but he gets a fair crop notwithstanding. How such things can grow, and they had much less than the usual amount of rain last winter, is a puzzle to me. Some of my Prune trees, set out a year and a half, then small one-year-olds, are now ten feet high, with as fine shaped tops and bodies as you would wish to see, and this with but two hours' rain since January, and no irrigation. You plainly see I'm in love with the country and my little ranch, with its windows covered with Madeira Vines with long racemes of flowers covering from ground to eaves.

THE ARGEMONE.

I think the Argemone needs a very rich situation, it has been magnificent all summer. I shall put a clump in the center of a bed of scarlet Geraniums, next season. This year the flowers have been four inches across, and the plants were three feet high. I had the seed six years ago, but the plants improve every year, and it is the only thing that I save seeds from, excepting Marigolds of all sorts.—FLORENCE.

PROTECTING PLANTS.

Last winter being unusually severe many will be liable to show a mistaken kindness to their shrubs, Roses and half-hardy plants, in the way of over protection. The winters being so variable in this country, no definite rules can be given, nothing but constant care and watchfulness will ensure the life of many half-hardy plants. Material and methods of protection will always depend mainly upon the ingenuity and judgment of the operator. Where boughs of evergreen are available, they are among the very best and safest material. There is a method of giving protection which ought to come into more general use, not only for half-hardy plants, but for some of our favorites which we sometimes consider iron-clad. This is simply to lay them on the ground and place a weight of any convenient material, or peg them down to keep them in place. There is *Prairie Queen*, for instance, the hardiest among the climbing section of our Roses, which, if given a liberal top-dressing of manure and treated as above mentioned, will give an increased quantity of larger and more highly colored flowers. *Baltimore Belle*, the most suitable companion we have for *Prairie Queen* in the climbing section, usually makes a rampant growth late in the season, and frequently one-half to two-thirds of its wood freezes and turns black. If this Rose is treated in the manner mentioned, it will bloom profusely almost to the tips of the branches. These are only a few of the plants classed as hardy which would be equally benefitted by a little protection, and reward us by more profuse and brighter colored flowers.—LEVANT COLE, *St. Joseph, Mo.*

HEATING WITH AN OIL-STOVE.

I have been amused in reading, in the September number of your MAGAZINE, of the description given by E. P. W., of his experience in heating a small greenhouse with an oil stove. I have a very small house of two sashes, three by six feet, the inside dimension of the building is about six feet square, and occupied, except a small place for standing room on the north side, by a cutting bench, which stands about three feet from the ground. I can reach over most of the surface. The door is on the north side, and the bottom of the house one foot below the

ground, and just high enough for me to stand upright in the highest part. I use an oil-stove to heat the same, but over the stove have sheet iron pipe, second hand will answer just as well as new and can be bought for one-half the price. The stove is set in the northwest corner on the ground. The pipe is hung up under the bench, and follows the west, south and east sides of the building, then into a wooden chimney up to the roof, then through a hole out. Over the stove, a double one, pipes lead up to this pipe, connected by an elbow and a T, and near the entrance of the pipe into the chimney is a common stove valve, this pipe distributes the heat and carries off the offensive odors.

From my diary of December 20th last, "Temperature this morning, at seven o'clock, 3° below zero; the highest I have seen it during the day was 12° above. To-night the thermometer stands at about zero; during most of the day the air was filled with particles of frost. The wind, last night, was fresh from the northwest, but my plants in the greenhouse were not injured," *Cinerarias*, *Pelargoniums*, etc.

The trouble I have with my small house is in the day time; when the sun is shining out bright the temperature will suddenly rise, and as suddenly fall when it enters a cloud. I think the trouble that E. P. W. complains of, the stove smoking, was lack of air, or rather oxygen, to support combustion; a small tube led in from the outside to the burner would remedy this.—S. K., *South Yarmouth, Mass.*

FLORAL GOSSIP.

One of the best ornamental-leaved plants for a somewhat shady location is the variety of *Maranta* called *zebrina*. There are other *Marantas* in which the foliage is more highly colored, but, as is commonly the case with plants of this class, they do not seem to be as strong or as robust as the kinds in which there is less bright color. This variety has large leaves, of a rich, shining, yellowish-green, barred with dark green stripes of a velvety appearance. These leaves are produced freely and soon completely cover the surface of the pot. The colors are not brilliant, but they are extremely rich, and the plant will be sure to please any

one who cares more for beauty than for mere showiness. It is of easy cultivation, growing well in ordinary potting soil. The leaves should be kept clean by frequent syringing above and below. It prefers a moist air to a dry one, but accommodates itself to circumstances much better than most plants of its class do. Where single specimens of ornamental plants are required it is extremely effective.

The *Ficus elastica*, better known, perhaps, as the India-rubber plant, is another of our best plants for cultivation in ordinary living-rooms. A small specimen is attractive, and as the plant increases in size it becomes more and more ornamental. The leaves are large, and of a rich, dark green, with a shining surface. In texture they are thick and leathery, and can be washed with a cloth or sponge without any danger of injuring them by handling. The foliage is very persistent, and old plants are often seen in which the small leaves of its early stages of growth are retained, these leaves having all the fresh appearance of recently produced foliage. On account of the close, firm texture of the leaf, this plant is able to stand heat, dry air and dust better than almost any other I have ever grown. A thrifty specimen will produce leaves a foot in length and four or five inches in width. If the leaves are broken, a thick, white sap exudes. This is said to be the substance from which India-rubber is manufactured. The plant is a very interesting one, and its easy cultivation and fine appearance in all stages of growth makes it a desirable one for the amateur. Each leaf is produced in a spathe or covering of dark reddish-brown, which greatly resembles a large flower bud until it bursts and shows the folded leaf inside. Plants can be obtained of all leading florists.

It is a good plan for any one who cultivates flowers in pots to provide a quantity of potting soil against a time of need. If you do not require any now, you will by and by, and it is therefore well to have a supply on hand to draw from when occasion requires. Go to old pastures and turn up the turf in fence corners, and with a spade, or other sharp tool, shave off the earth below the grass which covers the surface. This soil will be full of fine, fibrous roots, and these

roots will make it light and spongy, and as they decay they help to enrich it. Then procure an equal quantity of leaf-mold. You will find this about the roots of trees, or in fence corners where leaves have collected year after year. It will be rich, and black in color, spongy in texture, and has in it many of the elements which induce vigorous plant growth. Add to the leaf-mold and turf scrapings some of the best garden-mold you can procure. If there should happen to be old and thoroughly rotted manure handy, put in some of it. Then mix these things well together, adding as you do so enough clean, sharp sand to make the compost so friable that a handful of it after being pressed together, will readily crumble apart at a touch. Such a soil can be used for almost all plants with good results. It will retain plenty of moisture, but not too much, if proper attention is given to drainage, and the finest and most delicate roots will easily penetrate it. It does not sour or become soggy when more water is given than is required by the plant grown in it, as heavier soils will. Have a heap of it in some corner for summer use, and always put a good sized box full of it into the cellar in fall. Often plants need repotting in February, when it is impossible to obtain soil from out of doors, and they are injured if this attention is not given at that time. There need be no neglect of this kind if you have soil stored away for use when required.—*

GRAPE NOTES.

The Pocklington Grape, as raised here, has made even a better record this year than last, though that was good. The vine proves to be quite healthy, the foliage withstanding perfectly the bad weather of August that brought mildew to many other kinds. The vines were heavily loaded with large, handsome clusters of fruit which ripened perfectly, and was pronounced by good judges better in quality than Niagara, when tested together, and buyers in the market also give preference to this fruit over the Niagara. The fruit has shown no signs of falling from the stems. The soil is a clay loam.

The Amber Queen, on the same grounds, has borne a good crop of handsome and excellent fruit, and apparently will prove a valuable early variety.

August Giant is an excellent variety, but so subject to mildew, both of leaves and fruit, that no reliance can be placed on it.

Norfolk, a variety sent out as an early Catawba, appears to sustain that description. In color it resembles the Catawba, but the form of the berry is different, being longish rather than round, and about the same size as the Catawba, as are also the clusters. It has the Catawba flavor, but is a little more delicate, and the seeds are smaller, and we should judge ripens fully two weeks before the Catawba. It is a good strong grower, with healthy foliage, and is promising.

An acre of three-year-old vines of Prentiss that we have been able to notice during the summer, has appeared any thing but satisfactory. Many of the vines were greatly injured by the cold weather of last winter, and the foliage of all of them mildewed badly during the summer. Although the first reports of this vine were very promising, there is no prospect now of it being of any value for general cultivation.

We have received from Mr. CAYWOOD samples of his Ulster Prolific, and it appears to have the proper characteristics for a market variety, and the quality of it will commend it to buyers.

Last autumn, we noticed briefly a new variety of hardy Grape, originating in this city, that has been named Genesee, stating it to have been derived from Delaware crossed with Iona. It ripened so much earlier than Delaware last year that we thought it prudent to wait another season before announcing its time of maturity. We are not yet fully satisfied, and will only say that this fall it ripened not only later, but also comparatively later, than the year before. However, it ripened nearly two weeks earlier than Delaware this season. As all know, the weather of the month of August and first half of September was very unfavorable for Grapes, and the earlier ripening varieties were more retarded than the later ones. The quality of this fruit is such that we hardly know how to desire any thing better. The Iona, the Delaware and the Poughkeepsie Red are its standards of comparison; it is equal, if not superior to the best of these. It is larger in berry than either of them, and heavier in bunch, unless, pos-

sibly, Poughkeepsie Red may bear some bunches as heavy or heavier. It is of a bright wine color, but becomes darker when quite ripe, and having a fine bloom; a strong grower with thick, healthy foliage, and sets freely and heavily. We now await its appearance another year.

LILY OF THE VALLEY IN SHADE.

The Lily of the Valley likes a partial shade. It thrives well under tall trees with large, spreading tops, such as old

mass of plants show to fine advantage. An annual top-dressing in the fall, of fine old stable manure will maintain the fertility of such a bed for a long term of years.

HÆMONY.

In reading MILTON's "Comus," one comes on the description of a flower under the above name, to be used as an antidote as against spells or enchantments, which is described as "yet more medicinal" than "Moly." Hæmony, we



APPLE TREE SHADING THE LILY OF THE VALLEY.

Elms, and other high, branching trees. In the village of Canandaigua, in this State, standing on the front of the lawn of the old Greig place, is an Apple tree trained in espalier form, but with a head that is a half-oval. The ground underneath is occupied with Lily of the Valley in an oval bed of the size of the leafy canopy above, and the plants appear to be perfectly suited with this situation, as they are in robust health, and produce bloom in abundance every year. The lower edge of the tree foliage is about nine feet from the ground. The tree top and the bed underneath measure forty feet in length and ten feet in width; the

find, is simply an invention of the poets, Hæmonia being the poetical name for Thessaly, the early home of magic drugs and herbs. The Moly referred to, must, however, have more substratum of reality, as OVID, in his *Metamorphoses* XIV, 29, mentions it thus: "*Pacifer huic dederat florem Cyllenius album. Moly vocant superi; nigra radice tenetur.*" And TENNYSON, in his *Lotus Eaters*, in VII, 1, "Propt on beds of Amaranth and Moly." HOMER makes Hermes present it to Ulysses as an antidote to Circe's charms. — *Odyssey*. And it is described as "black at the root, with flowers like milk," and "very hard to dig up," inferentially of a

lengthy root. Perhaps some of your classic readers may be able to "dig up" some further particulars thereanent.—S. W. V.

WORK FOR THIS MONTH.

If any new walks are to be made, this month is a good time to do the work. Gravel walks through lawns should, if possible, have eight inches or a foot in depth of small stones below the gravel, thus favoring a quick passage of water, and also rendering them less liable to the growth of weeds.

Do not cover the lawn all over with stable manure which is to remain there all winter as an offence to the eye, the nostrils and the feet. There is nothing more disgusting than this turning a lawn into a barnyard, and there is no necessity for it. Stable manure is worth as much for garden crops as it is on the lawn, and it is doubtful if any one has too much of it for the former purpose. A good dressing of bone dust or ammoniated superphosphate early in the spring, will keep up the fertility of the lawn, and will not be noticed.

There is still time to plant bulbs, if that very important operation has not yet been attended to. After planting, give a good covering of old manure to remain during winter. Newly planted Asparagus beds should be treated in the same manner.

In the Northern regions, lay down the Rose bushes, and cover with evergreen boughs; in places where the common Brake can be had, it is well to collect it, as it makes an excellent protective covering. Old leaves, of course, can be used for the same purpose, and there is nothing better, the difficulty is to get enough of them. First, bend down the Rose shoots and fasten the tops to the ground with a peg, then draw soil up about the base as

high as possible, and afterwards cover with whatever material is to be obtained, keeping it in place by poles of sufficient weight to prevent displacement by the wind.

In cold localities, Spinach is greatly benefitted by covering with leaves, first laying down some poles and throwing twiggy branches over them to support the leaves somewhat, and forming an enclosed air space about the green foliage. This winter covering should not be placed on until the time when cold weather is about to set in. A light covering of leaves, straw, or cornstalks cut fine, is a great benefit to Strawberry plants.

Scions that will be wanted for grafting in the spring can now be cut and placed in the cellar; they will keep well in a dry, frost-proof cellar, tied in bunches and set on end, the butts being buried an inch or two in sand.

Take into the cellar a good supply of Celery, lifting the plants without shaking out the roots, and setting them in trenches five or six inches deep in the cellar bottom, or in boxes having a few inches of soil in the bottom.

A separate, dry, cool cellar is best for Apples, Pears, Grapes and other fruits.

This month usually affords the best weather for pruning Grape vines, and it is quite as well done at this season as later. Where it is necessary the vihes can be laid down after pruning.

SOME PUMPKINS.—We, of Victoria, do something large now and then, in this kind of ground-fruit. At the Ballarat Horticultural Show, March, 1885, one was exhibited which scaled up to one hundred and thirty-two pounds, and a second went down at one hundred and twenty pounds. They were of the Iron-rind species.—S. W. V.



OUR YOUNG PEOPLE.

A SHEAF OF WHEAT.

A THANKSGIVING STORY.

A big, rambling old farm house that in summer time stood in a bower of wild Ivy vines and Lilac bushes and clambering Honeysuckles, where the bees, with dusty, yellow wings droned in and out among the blossoms, now appeared, unpainted and weather-beaten, with the bare brown vines clinging to it for support as the north wind whirled down from the long, wooded slope between the hills, piling white flakes on white flakes, till great drifts rose high beside the stoops and gates till the world was white, as for a bridal, on that snowy Thanksgiving.

Within the farm house all was bustle, excitement and mirth. Grandfather Grey was there with dear, silvery-haired, rosy-cheeked Grandmother; so was Uncle Fred Grey and Aunt Carrie, Will and Nell, and the rest of the aunts and uncles and cousins, with their friends, as every one had full license to bring anybody to John Grey's hearth and home, sure of a welcome and cheer.

Farmer Grey was well-to-do. His big, cheery, hospitable house, his piled up granaries, his snug barns and out-houses, sleek cattle and pigs, and fine poultry went to show this. His own round, good-natured face and jolly laugh, his plump, buxom wife, his pretty, happy-hearted daughter, Jo, showed, each in their own way, that the world was good to them—that the gaunt, fierce wolf of want had never so much as poked his nose near them for years, though, when John Grey married Polly Jenkins, and they agreed to begin on what they could make, and get no debts, the hungry wolf had often entered their tiny door and stared them in the face. But now, ever since Jo could remember, and she was eighteen, life had gone well with them, and not a dollar owed they any one.

"For debt is a leech," John Grey had said to his bonny bride, "an' when 't once gets a hold of a feller its certain to ne'er let go if 't can help it; an' what we

can't earn honest and square we'll best go without." To which Polly agreed sturdily, and now what they had was their own.

To be sure, it took them a long time to learn the best way to sow and reap; one year there was too much Clover in the orchard and the trees would not bear well, the richness of the soil causing them to bud too soon, in consequence of which they were blasted; or the Strawberry patch was not thoroughly covered with straw when cold weather came; or the Peas and Beans were washed out by the rains, because they were not planted deep enough.

But they learned all these things after a time, and by experience, which is the only thorough, though often severe teacher. They worked their way up slowly, but they did rise, and this snowy Thanksgiving there was not a farmer around so contented in the thought of success as was farmer Grey. Yet every one has some trouble, and this jolly farmer was no exception. How many years ago was it,—ah, he was thinking of it then, as he walked slowly toward the barns to see that the stock was properly cared for, his head bent, his hands clasped behind.

The years rolled back—fifteen of them—and it was Thanksgiving day. Would he ever forget it? Had he not driven his boy, his only son, his fair-haired, broad-shouldered, stalwart Jack, out of his home in a fit of senseless anger that long gone Thanksgiving?

His will was strong. What he thought was right to be done, must be done, and Jack inherited this will, and when the two clashed one must give in, if peace was to be kept, and John Grey was not the man to give in to his son. So they quarreled over such a foolish matter.

They were feeding their stock together, as had been their custom since Jack could walk, and were discussing the year's gains and losses. Jack, laughing, picked

up a sheaf of Wheat from the floor, saying:

"If you had sown this in the level medder, dad, where the sun could tetch it straight ahead all day, an' the rain couldn't a washed it out o' the side hill, whar you *did* sow it, this head'd been a sight bigger'n 'tis, an' 'twould a been gold colored 'stead o' pale yaller. I b'lieve, dad, I'd make a better farmer'n you."

And it had made him angry. Jack was only fifteen, but he was smart and practical, and his father knew what he said was true, but he had sown it where he always had, and could not bear that a chit of a lad, like Jack, should give him advice. So he answered back angrily, and many words passed between them, for both were hot tempered, and it ended in his telling Jack to go and set up a farm for himself, if he knew so much about it.

He did not mean it; he never thought Jack would really go. He would have stood almost any thing rather than that. But Jack walked out of the barn, down through the orchard and did not return. How clear it all came back to him as he walked toward the barns, through the whirling snow—clear as on the day it occurred.

Mrs. Grey, passing the window, caught sight of her husband, and sighed softly with a pain at her heart, for she easily guessed of what he was thinking.

Out in the barn, farmer Grey, mixing a soft mash for the cows, pondered the question over and over where Jack could be, and if he were alive or dead.

After all, he was right in regard to the Wheat. He tried it afterwards, plowed the level meadow and worked the soil to perfection; sowed Rye the first year and Wheat the next, and the harvest he gathered into his granary was golden and round and full, every year adding to its perfection.

What if Jack were a boy? If he knew by plain common sense what was the place and manner of sowing, why should not his father follow the advice, to try it, at least. He wished Jack knew he did it; he wished he could know he had tried his plan.

A step sounded beside him, a long, curved, perfect sheaf of Wheat that showed in every solid grain the clear

sunlight and soft rain that had ripened it, fell on his bench, while a voice, deep and full of excitement, sounded in his ears, a voice he would know any where, at any time, no matter how many years had rolled between, the voice of his Jack, his son.

"Weel, dad, I've tried my plan; see how it has worked. Thar's a spec'men o' Wheat straight from the fields o' Illinois, with the sun on't, an' the rain an' the cyclones."

The old barn rang with his laughter, and the cattle paused in their eating at the sound of it, while the old man—well—

* * * * *

There was the music of young voices around the great open wood fire in the hall where the young folks had gathered. Some were picking over the Cranberries, others piling the different fruits in fantastic baskets of variegated Mosses and Ferns, and bright Checkerberries, raised by Jo, in her "conservatory corner" of the sitting-room, one entire side of which was wide glass windows from floor to ceiling, the upper half colored, the lower half plain, built in by her father for her own especial benefit, where her song birds swung in their cages amid the brilliant flowers and leaves.

Jo, herself, with the help of half a dozen pairs of other hands, was arranging some of her choice flowers in a big blue pitcher. There were Moss Roses, deep colored and exquisite, faint pink monthlies, and double Pinks heavy with fragrance, purple Pansies that had been so hard to raise, but that paid so well for her pains, and double red and white and pink Geraniums, truly a goodly assortment.

These flowers were the wonder and admiration of Jo's friends, but, as she often said, she could not tell them how she had raised them. She gave them plenty of sunlight, kept the soil around them constantly moist, and there they were. Instead, however, of using the regulation earthen pots, used tin cans, old ones, which she painted brown, and punched holes in the bottoms as a drain for the water. These cans she washed off at least once a week, and bathed the plants to destroy any lurking insects. That was all. Surely it was enough.

The house re-echoed with merry

voices. The north wind and snow could have it all their own way outside, but within red fires leaped and crackled, birds sang and bright flowers bloomed.

Presently a commotion was heard in the sitting-room, where were the older people; exclamations of astonishment, loud voices and laughter, and faint sobbing. The young people rose in a body and started to find out the cause of the strange excitement. Jo was pale as death, and unconsciously hugged close in her arms the big pitcher of flowers, while Nell carried her pan of Cranberries, and the rest recklessly trampled scattered flowers and moss and berries under their feet in their haste. And when they reached the sitting-room door and peered over one another's shoulders, a group of eager, excited, wondering young people, there was Grandfather and Grandmother Grey, mother and uncles and aunts, with fluttering cap strings and ribbons, tearful eyes and laughing lips, Aunt Fannie, in her excitement for the moment, even forgetting the baby who lay on his back on the floor, screaming lustily, as they crowded around farmer Grey and a tall, broad-shouldered, brown-bearded man, around whose neck mother Grey was clinging, her face hidden against his shoulder, while grandfather hurriedly wiped his spectacles, and grandmother, with uplifted hands and tearful eyes thanked the Lord for His goodness in giving Jack back to them, safe and well.

Jo forgot her flowers, her pitcher, everything, but that Jack had come back. Jack, her brother, whom she faintly remembered as the impish boy who teased her almost to death by cutting off her doll's legs and arms, but who could carry her on his back as could no one else, and who "punched" the other fellows' heads if they offered her any rudeness. Jack, she had never forgotten him, was come! Down went the pitcher, broken in fragments at her feet, scattering the flowers

and water in all directions, but she did not notice it, as she sprang forward with a glad cry, and was locked in his arms with her mother.

* * * * *

Such a happy party as gathered around the long dining table. Such bright faces and eager voices as filled the low-ceiled rooms. The crisp-brown turkeys stuck up their legs triumphantly, the plum puddings steamed gaily away from out a circle of flowers. Jo's flowers re-arranged, filled the air with fragrance, "and all went merry as a marriage bell."

Jack, between grandmother and Jo, kept his audience alternating between laughter and tears, as he told his experience, his haps and mishaps in the struggle for wealth.

"I'd 'bout made up my mind ter git 'long 'fore I kum hum," he said, "an' fer all the hard work I had ter do 't, I did succeed fin'ly, for Illinois is thar place ter do 't in. I worked my way out thar in the fust place, little by little. In course it took a purty long time a gettin' thar, but fin'ly did, an' I worked up till I got a farm o' my own, with cattle an' horses an' great fields o' wheat thet air all my own, an' then I thought 'twas jest 'bout tim I kum hum an' let yer know I was livin' square an' honest as dad, himself."

"And, Will," Jo said softly, to an honest, earnest friend of one of her cousins, as they stood together, in the evening, behind the friendly curtains in her conservatory corner, looking out at the great white world of snow and twinkling lights of distant farm houses, "Will, Jack tells that next Thanksgiving he will come again, and bring with him a dear girl he has found out there, who will then be his wife, dear Jack."

While her companion, strange to say, drew her close up to him, as he whispered, "And I, too, will then bring home my wife; eh, Jo, dear?"—J. K. LUDLUM, *New York, N. Y.*

THE TOMB AND THE ROSE.

The tomb says to the Rose above :

"The tears wherewith the gloaming sprinkles thee—
What dost thou with them, flower of love?"

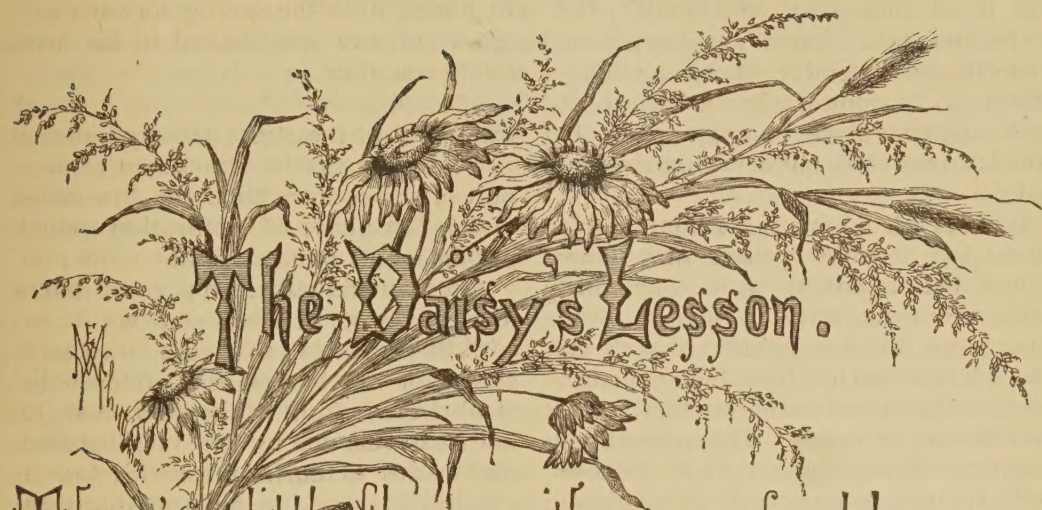
The Rose says to the tomb : "Tell me
What thou dost with the many things that fall
Into thy ever grasping maw? Dull tomb,
Those tears I transmute all,

Honey and amber blending, to perfume,
Amid the shade." "Sad, plaintive flower,"

The tomb in turn replies :

"I make each soul that comes within my power
An angel for the skies."

—F. CAPES' translation from VICTOR HUGO.



There's a little flower with crown of gold,
And petals of spotless white,
Heaven-ward turning its lovely pure face
To the sun-rays warm and bright.

No thought does it give to its daily needs,
For He who made all things fair
Protects the small blossom through-out its life,
And gives it His watchful care.

Then let us thus trust Him with all our hearts,
His ways are wisest and best,
He will guard and guide us, then at the last
Bring us safely into His rest.

STELLA RAY'S JOURNAL.

October 1st. I open my journal and look at my calendar. I am no longer afraid of its motto, after a talk I had with mamma since coming home; but still I do not feel quite untrammelled in mind.

October 3d. I have not written a word about the terrible cyclone that almost demolished a county seat, only thirty miles from us, while I was at Uncle George's. But there is still so much talk about it, and such efforts being made to raise relief for the sufferers that I must jot down a few words. The engraving in *Harper's Weekly* of the Odd Fellows' Hall ruins was copied from a picture taken by one of our artists. It seems so like a miracle that after every man in the hall had rushed from a falling wall to an ante-room at the opposite end, and that wall also and the main floor had gone, that the bit of floor on which they stood was all that was left. A man was just being initiated; wonder if he knows whether he is really a member or not!

Fifteen men at the depot were saved by a piece of falling roof having lodged on a tall stove. A young friend of papa's who lives here, was in a business room at that place with two friends, one of whom was about closing up for the night when one wall of the building fell, and rushing the other way, they dodged into a vault just as the other walls and upper story were trembling around them. A score or more of similar escapes really occurred.

Only last year there were two cyclones nearer us than this one, one of which was equally destructive, and covered a wider field, almost destroying an entire town. We used to think no more of ever having cyclones here than we do now of having Vesuvian earthquakes.

It seems that Sambo went on one of the excursion trains to see the ruins, and ever since pales to a leaden hue whenever the wind and sky seem threatening. He boasts of having a good hiding place provided for himself in case of cyclone. When asked what he'd do if caught on the road with papa, he exclaimed:

"Do! I reckon if the wind tuk us, I could go whahevah Doctah Ray goes. I'd be safah 'long wid him dan any oddah place, suah."

October 6th. Last Monday I resumed

the children's lessons, and to-day being lovely we went to a favorite resort in a neighboring wood, with a troop of the little ones of the street accompanying us. Am thankful that the woodlands in this part of the country have not all vanished under that phase of civilization which is nothing short of vandalism.

After we had gathered a lot of autumn leaves, vines, berries, and some nuts with their jackets on, we sat down on the carpet of dry leaves, the children in a semi-circle in front of me, and examined our treasures, one by one, making all the discoveries of curious construction and possible uses of the different parts that could be suggested by the little ones, and more than they could get a solution of from myself. We were having a lovely time when we heard a crash, crashing sort of stride in the distance, and looking up saw Mr. Sheldon coming toward us with a great bundle of berry-laden branches and trailing vines on his shoulders. He greeted us as he came near, with his face all a-smile, and said:

"I've seen lovely sights in the woods, this morning, but none so charming as this. I wish I were a child again, that I might join the group." The children instantly made room for him, clamoring for him to sit down. He glanced at me, but my frozen demeanor was repelling, and he smilingly passed on. I said to myself, "He thinks me naturally grum and cold, and that it is not worth while to notice it. Were it not that I'm mortified for him to think my noble parents have so ungracious a daughter, I would not care what he thinks. Of course, he's a good man, but not my sort by a great difference."

October 9th. In every letter to Will I have questioned him about his table-mate, and at last he writes that it is Helen Holmes again; says she's as reserved and as charming as ever, but always has some excuse for not meeting him socially, except at table. I shall write him that he may be sure his "lone star" is "engaged" all this time, and will remind him that he has only just entered his twenty-first year, and that hard study is good medicine for ungraduated boys with heart troubles. How he will flinch.

October 11th. Mrs. Roland and Mary

called in this evening to inquire if Will has made any mention of Cyrus in his letters. I am sure we all felt embarrassed to have to say, no; and I wondered why I, myself, had not asked Will how Cyrus was getting along. Mrs. Roland quietly remarked that she could not have sent him so far away only for Will's being there, and that she had, in a manner, with papa's consent, put the boy in his care. Mary quickly added:

"We did it more freely because Cyrus thinks Will is a perfect prince of a fellow, and would be easily controlled by his opinion in any matter." It seems they had received bits of letters from Cyrus, but, boy-like, he omitted to write of what they most wished to know. As soon as they left, mamma wrote to Will to report, charging him to keep himself posted as to the boy's general getting on.

October 14th. Mamma said, last evening, that she thought of going soon to see Mehetable, and learn her condition and how they are likely to fare the coming winter. That started up a tumult of feeling in my excitable self, and I came to my room and thought my side of the subject all over again for the hundredth time. I am thankful the slippers are nearly finished. My birthday comes on Friday, this year. I am glad I have no superstitions about the day.

October 18th. This is Sunday evening; I haven't felt quieted down sufficiently since Friday's birthday surprises and delights to write a word until now. You know, Old Journal, that I have laughed at and teased the Hazens because of their sombre way of contemplating their legacy until they might justly be offended. I finally told them they had better make it over to other heirs, and try to be happy once more. But a great o-o-ing and up-raising of hands followed this suggestion, Mr. Haven exclaiming:

"Indeed, hif Lord 'Enery wanted hus to 'ave hour share, not a tup-pence hap-penny of it shall stay on the Henglish side of the sea."

Well, these people have always remembered my birthdays in some small way, but this time it seems that Mr. H. had told papa that my "eighteenth birthday must be a white day in my life," and gave him money "for a diamond or a watch," he said. Papa had planned to get me a solitaire ring, anticipating, he said,

with a twinkle in his eye, a father's jealousy of the pleasure a possible lover might bestow, if left to make the first gift of that kind. (The idea!) Then, he added, that his present was no bauble, but something that would always represent money value, and was, therefore, not money wasted. So the exquisite watch and chain are a present from the Havens. Uncle George and auntie, brother Will, Mary Roland and the two children, all had remembered me. Dear mamma's gifts were various, mostly valuable additions to my library and toilet. Mr. Sheldon sent me a beautiful copy of Montgomery's poems. (What *made* him!) In all, there were twenty choice volumes sent me from outside friends. I am perfectly astonished as well as delighted.

October 20th. To-day, while speaking of my presents, mamma quietly asked how I would feel about it if my friends were unable to give me any but the simplest gifts. I pondered for a moment and answered, candidly:

"I was perfectly contented on Thursday, not knowing I was to have these things, and if I knew my people had small means, I should never think of such gifts for myself, nor even wish for them. I haven't forgotten that Mr. Blank, who committed forgery to indulge the vanity of his wife and daughters. Of course, he was weak, or he wouldn't have felt driven to do it. But the fact of his motive is all the same."

October 23d. To-day, I finished the slippers and took them to mamma, and then told her about the shawl, and of how condemned I had felt for my dislike to Mehetable and her presence in the house, and how troubled I had been because I could think of no way to be of use to her, except by doing something of this kind, and asked her to take the things to Mehetable when she visits her. Mamma seemed surprised, saying she had thought me very kind to her, etc. Then we had a long talk, and mamma assured me that I had been trying to carry more responsibility than belonged to me, that I was over-sensitive about what I was not accountable for, and that she would like me to be as cheery and light hearted as possible, because, with my tendencies, there was no danger of my becoming too thoughtless, like some girls she had known.

I don't know whether I was the more pleased or astonished by what she said. But, heigho! I do believe I am rid of the burden of that woman, after all!

October 26th. Yesterday morning, mamma took the train and went to see Mehetable, returning to-day. She reports that person in very good general health, except that she has not recovered her speech. The arm once so useless is now nearly as strong as the other. She hugged and kissed the shawl and slippers. So papa, it seems, has been the means of doing her a real benefit, for which I am thankful.

October 28th. Of course, it is not in good taste for a young girl to wear a watch merely for ornament, but the Havens do not understand this; so, one day, I dressed myself nicely, and putting on watch and chain, went to make them a visit of thanks. On first entering the door I stood still, and pointing to my present, said:

"Just see what a *royal* gift some kind friends sent me on my birthday! It's no common affair, I assure you—," and

then I called attention to the fine points of the articles, etc., until their faces lighted up as they hadn't before since they heard of the legacy. But very soon Miss Haven resumed her funereal look, saying:

"We've 'ad another letter from Lord 'Enery 'Aven's barrister, telling us to come an' receive hour—."

October 31st. I had written thus far when I was hurriedly called down stairs, where I found mamma standing in tears, holding a telegram from Will.

"Oh, Stella!" she groaned, "Cyrus Roland is drowned!" I felt positively terrified as the full significance of the appalling news rushed upon me. "And O, papa is gone!" I exclaimed. "Who, *who* can tell Mrs. Roland and Mary!" "Brace yourself, my dear, and go quickly to Mr. Sheldon; he will see them." No sooner said than I was off in the starlight, screening my face near the lamps to hide my streaming tears. But I can write no more now. Continued worry and excitement have made even me ill and nervous. Poor Mary! poor Mrs. Roland! How can Will Ray take it all so lightly as he does!

EDITOR'S MISCELLANY.

SEED PURCHASES BY THE GOVERNMENT.

Our friend, MEEHAN, referring to Mr. VICK'S statement before the American Seed Trade Association, in regard to worthless seeds that were disposed of to the government, comments on the "morality of selling seeds known to be worthless to the government at high figures." Now, we assure Mr. MEEHAN that the morality of the transaction, as far as the seed firm was concerned, was all right, and we ask him to note that it was said that the sale was made "to a dealer," and that he "sold to the government." That the government became the purchaser was not known by the seed firm for several months after. The fact, however, remains that the government was the purchaser of a lot of trash that no person understanding his business would have touched. As the one black crow, in telling a story, gets to be numerous after several repetitions, we will here say, that the sale mentioned was not in connection with the Vick Seed firm. In "ways that are dark and tricks that are vain," it isn't always the government that poses as the little innocent, after the manner of the wolf and the lamb, in the fable.

HORTICULTURAL PUBLICATIONS.

New publications of all kinds are constantly starting in this country, and are almost as rapidly discontinued. The present autumn has been fruitful of new horticultural papers, two of which were noticed in our last issue.

In September, appeared the first number of the *Michigan Horticulturist*, edited by CHARLES W. GARFIELD, and published by the W. H. BURR Publishing Company, of Detroit, Michigan, at one dollar a year. It is in twenty-four page, octavo form,

issued monthly. It is specially devoted to the interests of the Horticultural Societies of Michigan, but, besides, contains a variety of communications and notes on horticultural topics. We wish it a successful course.

The Orchard and Garden is a monthly sent out by the well known horticulturist, J. T. LOVETT, of Little Silver, N. J.

POPULAR SCIENCE MONTHLY.

This well known magazine continues its course with marked ability. Its readers are kept informed on all advanced ideas of science, and every month's issue is filled with the writings of the best scientists of the world. These writings are almost or quite free from technical words, and are adapted to the general reader. Every well informed person desirous of keeping abreast of the leading ideas of the age should be a regular reader of the *Popular Science Monthly*, published by D. APPLETON & Co., New York, at \$5.00 a year.

THE TRI-COLORED BEECH.

W. C. STRONG, in *The Gardeners' Monthly*, says that this new variety of Beech, *Fagus purpurea tricolor*, "is not a novelty to be commended for general use." With him "the delicate parts of the leaf become crisp and sear before midsummer, and the whole appearance of the plant is rusty and objectionable."

GRANT MEMORIAL PARK.

THOMAS MEEHAN suggests a memorial park instead of a monument, in memory of General GRANT, "which in real artistic beauty should rival the public gardens of the world." A grand idea.